

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

THE MUD TURTLE, *KINOSTERNON FLAVESCENS*
STEJNEGERI HARTWEG, IN THE UNITED STATES

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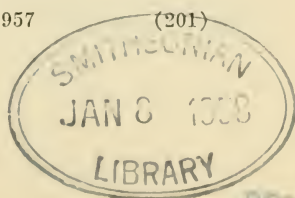
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During the summer of 1957 we had the opportunity to collect reptiles along the Camino del Diablo and in the vicinity of the Pinacate lava in extreme northern Sonora, Mexico. Although we were primarily concerned with the fauna on the Mexican side of the International Border, we encountered a few noteworthy reptiles in adjacent Arizona. The most notable of these are a male and female mud turtle, clearly referable to *Kinosternon flavescens stejneri* Hartweg.

The two turtles were found *in copula* on July 31, 1957, in the small pond at Quitobaquito, 12 miles west of Sonoyta, Sonora, but on the American side of the Camino del Diablo. The male (Ill. Nat. Hist. Surv.) and female (Mich. State Univ.) have, respectively, carapace lengths of 155 and 142 mm., over-all plastral lengths of 137 and 123 mm., gular lengths of 28 mm., nuchal widths of 8.8 and 4.5 mm., and femoral seam lengths of 11 and 10.2 mm. When the two turtles were alive, the head and soft parts were similar in coloration to those of living *K. f. flavescens*, but the brownish olive shells of the two live *stejnegeri* were unlike those of any *flavescens* we have seen.

Three subspecies of *Kinosternon flavescens* are currently recognized. The nominate race occurs in the Great Plains from southern Nebraska southward into northern Mexico and from extreme eastern Kansas westward into southeastern Arizona and northeastern Sonora. The race *spooneri* occurs in scattered relict colonies in western Illinois and adjacent Iowa and Missouri. The distinctive *stejnegeri* has been known previously from Sonora and Durango; presumed intergrades between *flavescens* and *stejnegeri* have been reported from Jaral, Coahuila (Hartweg, 1938). The subjects of the present paper extend the known range of the subspecies some 160 miles to the northwest and provide the first record of *stejnegeri* in the United States.

The discovery of aquatic turtles in the tiny, isolated, spring-fed pond at Quitobaquito came as a distinct surprise. The nearest permanent water is the intermittent Sonoyta River which is separated from



Quitobaquito by at least five miles of Sonoran desert. According to the local residents of Sonoyta, mud turtles do occur in the river; and one form, the specifically distinct *Kinosternon sonoriense*, has been recorded from the Sonoyta River (Van Denburgh, 1922). We were unable to find any turtles in the river and thus unable to ascertain if a *flavescens*-type turtle actually does occur in the Rio Sonoyta along with *sonoriense*. In answer to our inquiry concerning other *flavescens* records for the desert portion of Arizona, Dr. Fred A. Shannon of Wickenburg kindly pointed out to us that the only record for western Arizona is one of Agassiz's cotypes of *Platythya flavescens*, said to have been collected in the Gila River at Camp Yuma, Arizona, by R. O. Abbott. The other cotypes were allegedly from Texas and the Red River of Arkansas. The specimen from Yuma is still extant in the United States National Museum, and it is remarkably well preserved for a specimen more than 100 years old. Through the courtesy of Drs. Doris M. Cochran and Remington Kellogg, we have been permitted to examine it.

Expecting that the cotype would prove to be either *sonoriense* or *stejnegeri* as ecological and geographical considerations suggest, we were surprised to learn that it shows more affinities with *flavescens* than any other member of the genus. It is aberrant in some respects, but we regard it as a *flavescens* X *stejnegeri* intergrade. In size of the gular, it resembles the geographically remote *spooneri*; in size of the nuchal, *stejnegeri*; in length of the femoral seam and coloration, *flavescens*. It differs most conspicuously from all members of the *flavescens* group by its more or less quadrangular pectoral laminae (the pectoral seam is 9 mm. in length). The principal diagnostic proportions are summarized for five samples of turtles in the following table.

Sample	Length of anterior lobe of plastron/gular length + nuchal width + femoral seam length			
	Gular length/ lobe of plastron length of anterior		Range Mean	
<i>K. f. stejnegeri</i> (2 from Arizona)	.600-.640	.620	.984-1.03	1.00
<i>K. f. stejnegeri</i> (9 from Mexico)*	.600-.640	.630	1.07-1.21	1.13
<i>K. f. spooneri</i> (26 from Illinois)	.434-.557	.501	.612-.790	.724
<i>K. f. flavescens</i> (27 from western U.S.)*	.270-.500	.410	.510-.780	.635
Cotype of <i>flavescens</i> (Yuma, Arizona)	---	.478	---	1.25

*Data for the *stejnegeri* sample from Mexico and the *flavescens* sample from western United States taken from Hartweg (1938). The means for the two sexes in each sample have been estimated from the means for each sex presented by Hartweg.

LITERATURE CITED

- HARTWEG, NORMAN 1938. *Kinosternon flavescens stejnegeri*, a new turtle from northern Mexico. Occasional Papers of the Mus. Zool., Univ. of Mich. No. 371, pp. 1-5.
- VAN DENBURGH, JOHN 1922. The reptiles of western North America. Vol. 2. Snakes and turtles. Calif. Acad. Sci. Occasional Papers No. 10, pp. 617-1028.

